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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,900	12/03/2004	Norman L. Holy	147-04	8734
27569 7590 01/03/2007 PAUL AND PAUL 2000 MARKET STREET SUITE 2900 PHILADELPHIA, PA 19103			EXAMINER ARK, DARREN W	
			ART UNIT. 3643	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/03/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/516,900	HOLY, NORMAN L.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Darren W. Ark	3643	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-12, 18-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 18-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 8-12, 19-23, 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to claims 8-12, 19-23, 26, and 27, the specification does not disclose the manner in which the two thermoplastic polymers with limited compatibility are to be blended. The process of blending of two polymers such as polypropylene and polyethylene requires a compatibilizer to be mixed with the two polymers since without the compatibilizer, it would result in the two polymers mixing like oil with water (immiscible materials). Therefore, it is unclear from the specification how exactly the desired invention is made.

Also in regards to claims 12, 19, and 27, the terms "amorphous" and "non-amorphous" are not specifically disclosed in the specification as to how they are different materials. These terms can be considered to have overlapping scope since a material which is amorphous can be considered to range from a totally crystalline

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material down to a material which has a percentage of its composition being a crystalline material while a non-amorphous material can also be considered to range from a non-crystalline material up to a material which has a percentage of its composition being crystalline material. In other words, the range of crystallinity that lies between what is considered to be amorphous and non-amorphous overlaps. Values of birefringence, X-ray diffraction, and percent crystalline in polymer are necessary in the disclosure to clearly disclose the degree of amorphosity so it is clear as to what material is being disclosed as part of the composition of the desired invention.

In regard to claims 19, 21, and 22, the specification does not disclose any embodiments or examples wherein the rope comprises a thermoplastic material is a mix of polypropylene (PP) and polyethylene (PE) where the polypropylene includes a portion of amorphous polypropylene. Also the specification does not disclose the use of a compatibilizer to make the blending of PP and PE work since it can be considered that combining PP and PE without the compatibilizer is akin to mixing oil with water, therefore the disclosure fails to disclose how to make the desired invention.

In regard to claim 27, the specification does not disclose any examples of the thermoplastic mix being about 15 wt% polyethylene, about 70 wt% non-amorphous polypropylene, and about 15 wt% amorphous polypropylene. No such mixture is shown or disclosed at pages 9-10, paragraph 33 or in Table 1.

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3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 18-23, 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 18, the phrase "the tensile strength of the braided fibers is decreased by more than about 50%" renders the claim vague and indefinite since it is unclear what standard the tensile strength is being reduced relative to.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical

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Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 26, 27 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Sartori et al. 6,657,033.

Sartori et al. discloses braided fibers of plastic material monofilament through the length of the rope (col. 9, lines 5-10 & lines 34-43); a quantity of inorganic particles ("the fibers of the present invention can contain other additives commonly employed in the art... fillers... pigments"; see col. 6, lines 8-12); the plastic material being a mix of PP having a MFR<15g/10min. and PE having a MFR>50g/10min. (see col. 10, lines 1-15 [table with Polymers I, Ib]); the tensile breaking strength being at least 25% less than an equal rope without the inorganic particle dispersion (rope of the same size which is made from a much stronger material to include metal materials); and wherein the rope elongation is less than 20% (see col. 10, lines 1-15 [table with Polymers I, Ib]).

In regard to claim 27, Sartori et al. discloses a thermoplastic mix (see cols. 4-6) and the MWD of the PP and PE being greater than 3 (see Tables at col. 10 and Tables 2 & 6-8).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1- are rejected under 35 U.S.C. 103(a) as being unpatentable over Sartori et al. 6,657,033.

9. Claims 1-6, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Anderson et al. 5,913,670.

Morris et al. discloses a rope comprising fibers (see col. 1, lines 42 & 47) which comprise 30-90 wt% of a thermoplastic polymer (see cols. 6 & 7) and a 20-70 wt% filler (see col. 4, lines 54-end & col. 5, lines 1-72) distributed uniformly in the polymer and wherein the particle size of the filler can range from very fine to very coarse depending upon the end use of the composition. Morris et al. also discloses a filler particle size under 100 microns (fiber itself of Example II is 26 microns in diameter) and that "When untreated kaolin is used the break strength falls off rapidly as filler loading is increased," at col. 11, lines 42-43. Morris et al. discloses a rope which can be weakened throughout the length of the rope by filler loading, but does not particularly disclose the rope having a diameter between 5/16 inch and 1.0 inch and which breaks between 600 and 2200 pounds of pulling tension being at least 25% less than that of the same rope diameter of an un-weakened polymeric fibers. Anderson et al. discloses a rope

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comprising weak fibers (weakened section 63) for use with fishing gear (buoys 21, buoy lines 22, a sink gillnet 23, and lobster trawl 24), wherein the rope has a diameter and breaks between 600 and 2200 pounds of pulling tension (see col. 6, lines 7-41). It would have been obvious to one of ordinary skill in the art to modify the rope of Morris et al. such that the rope has a diameter between 5/16 inch and 1.0 inch and which breaks between 600 and 2200 pounds of pulling tension being at least 25% less than that of the same rope diameter of an un-weakened polymeric fibers in view of Anderson et al. in order to tailor the rope to an application where it is intended to make the rope of such construction that a whale may free itself if it becomes entangled in the rope when the rope is employed in fishing gear. Morris et al. and Anderson et al. do not disclose the rope having a diameter between 5/16 inch and 1.0 inch. It would have been an obvious matter of design choice to design the rope such that it has a diameter between 5/16 inch and 1.0 inch in order to make the rope of sufficient size to be able to haul the fishing equipment into the boat and fit the standard rope and net hauling equipment such as pulleys, sheaves, etc. It is also noted in applicant's specification at page 2, paragraph 6, that "Conventional rope...has a...diameter range of 5/16-7/16 inches".

10. Claims 8-12, 19-23, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Anderson et al. 5,913,670 as applied to claim 1 above, and further in view of Lamb et al. 3,705,074.

Morris et al. and Anderson et al. disclose the device made from selected materials including polymers (also see col. 5, lines 35-47 of Anderson et al.), but does not disclose that the weak fibers being formed of a blend of at least two polymers



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having limited compatibility. Lamb et al. discloses a fibrillated monofilament for use in ropes (see col. 5, lines 12-20) wherein the fibers are formed from a blend of at least two polymers (polypropylene and polyester) having limited compatibility (see col. 2, lines 50-59) consisting of 90-60 wt% (see claim 1) polypropylene and 10-40 wt% polyethylene (see claim 1) and that "the low strength of the polyester component and the significant incompatibility between the components which constitute the microfibrils and those which form the matrix plays an important role in the case of fibrillation observed with these systems" (see col. 5, lines 1-20). It would have been obvious to a person of ordinary skill in the art to modify the weak fibers of Morris et al. and Anderson et al. such that they are formed of a blend of at least two polymers having limited compatibility in view of Lamb et al. in order to provide a rope of limited strength that may be cheaply and readily manufactured in mass form.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Anderson et al. 5,913,670 as applied to claim 18 above, and further in view of Bastiaansen et al. 4,938,911.

Morris et al. and Anderson et al. disclose braided fibers having inorganic material dispersed throughout, but do not disclose the fibers having been drawn at a ratio greater than 6.3:1. Basitaansen et al. discloses the filaments for use in ropes (see col. 6, lines 50-56) having been drawn at a ratio of greater than 6.3:1 (draw ratios above 10 can be utilized). It would have been obvious to one of ordinary skill in the art to modify the fibers of Morris et al. and Anderson et al. such that they have been drawn at a ratio

of greater than 6.3:1 in view of Bastiaansen et al. in order to impart the desired characteristics to the fibers.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Anderson et al. 5,913,670.

Morris et al. discloses a rope comprising fibers (see col. 1, lines 42 & 47) which comprise 30-90 wt% of a thermoplastic polymer (see cols. 6 & 7) and a 20-70 wt% filler (see col. 4, lines 54-end & col. 5, lines 1-72) distributed uniformly in the polymer and wherein the particle size of the filler can range from very fine to very coarse depending upon the end use of the composition. Morris et al. also discloses a filler particle size under 100 microns (fiber itself of Example II is 26 microns in diameter) and that "When untreated kaolin is used the break strength falls off rapidly as filler loading is increased," at col. 11, lines 42-43. Morris et al. discloses a rope which can be weakened throughout the length of the rope by filler loading, but does not particularly disclose the tensile strength of the braided fibers being decreased by more than about 50%. It would have been an obvious matter of design choice to make the make the braided fibers such that they have a tensile strength which is decreased by more than about 50% since applicant has not disclosed that by doing so produces any unexpected results and it appears that the braided fibers of Morris et al. would perform equally as well by doing so.

13. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Lamb et al. 3,705,074.

Morris et al. discloses the device made from selected materials including polymers, but does not disclose that the weak fibers being formed of a blend of at least two polymers having limited compatibility. Lamb et al. discloses a fibrillated monofilament for use in ropes (see col. 5, lines 12-20) wherein the fibers are formed from a blend of at least two polymers (polypropylene and polyester) having limited compatibility (see col. 2, lines 50-59) consisting of 90-60 wt% (see claim 1) polypropylene and 10-40 wt% polyethylene (see claim 1) and that "the low strength of the polyester component and the significant incompatibility between the components which constitute the microfibrils and those which form the matrix plays an important role in the case of fibrillation observed with these systems" (see col. 5, lines 1-20). It would have been obvious to a person of ordinary skill in the art to modify the weak fibers of Morris et al. such that they are formed of a blend of at least two polymers having limited compatibility in view of Lamb et al. in order to provide a rope of limited strength that may be cheaply and readily manufactured in mass form.

14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Bastiaansen et al. 4,938,911.

Morris et al. does not disclose the fibers having been drawn at a ratio of greater than 6.3:1. Basitaansen et al. discloses the filaments for use in ropes (see col. 6, lines 50-56) having been drawn at a ratio of greater than 6.3:1 (draw ratios above 10 can be utilized). It would have been obvious to one of ordinary skill in the art to modify the fibers of Morris et al. such that they have been drawn at a ratio of greater than 6.3:1 in view of Bastiaansen et al. in order to impart the desired characteristics to the fibers.

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15. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sartori et al. 6,657,033 in view of Morris et al. 3,697,474.

Alternatively, Sartori et al. does not disclose inorganic particles therein. Morris et al. discloses inorganic particles therein such that the tensile breaking strength of the rope is at least 25% less than an equal rope without inorganic particle dispersion (Morris et al. discloses that adding fillers to the plastic will lessen the strength). It would have been obvious to a person of ordinary skill in the art to modify the fibers of Sartori et al. such that they have inorganic particles therein in view of Morris et al. in order to utilize fillers that are naturally occurring and readily available without having to resort to the use of artificial fillers to achieve the desired strength properties in the rope.

16. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. 3,697,474 in view of Lamb et al. 3,705,074 and Sartori et al. 6,657,033.

Morris et al. discloses the device made from selected materials including polymers (also see col. 5, lines 35-47 of Anderson et al.), but does not disclose that the weak fibers being formed of a blend of at least two polymers having limited compatibility. Lamb et al. discloses a fibrillated monofilament for use in ropes (see col. 5, lines 12-20) wherein the fibers are formed from a blend of at least two polymers (polypropylene and polyester) having limited compatibility (see col. 2, lines 50-59) consisting of 90-60 wt% (see claim 1) polypropylene and 10-40 wt% polyethylene (see claim 1) and that "the low strength of the polyester component and the significant incompatibility between the components which constitute the microfibrils and those which form the matrix plays an important role in the case of fibrillation observed with

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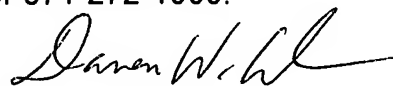
these systems" (see col. 5, lines 1-20). It would have been obvious to a person of ordinary skill in the art to modify the weak fibers of Morris et al. such that they are formed of a blend of at least two polymers having limited compatibility in view of Lamb et al. in order to provide a rope of limited strength that may be cheaply and readily manufactured in mass form. Morris et al. and Lamb et al. do not disclose the MWD of the PP and PE being greater than 3. Sartori et al. discloses the MWD of the PP and PE being greater than 3 (see Tables at col. 10 and Tables 2 & 6-8). It would have been obvious to one of ordinary skill in the art to modify the rope of Morris et al. and Lamb et al. such that it has a MWD of the PP and PE being greater than 3 in view of Sartori et al. in order to impart the desired strength, flowability, and drawability characteristics to the rope.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Ark whose telephone number is (571) 272-6885. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on (571) 272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Darren W. Ark  
Primary Examiner  
Art Unit 3643

DWA